APPENDIX E –
Cincinnati Streetcar Markets and Ridership Demand Forecasting Methodology

Background

Definition of Study Area

For the purposes of this study, the study area for the Cincinnati Streetcar was designed to include the majority of the Riverfront/Banks area, the Cincinnati CBD, and Over-the-Rhine (OTR) including the Brewery District. Rough boundaries for the overall study area are the Ohio River to the south, Elm Street (CBD) and Central Avenue (OTR) to the west, Broadway (or just slightly beyond) to the East, and McMicken Avenue to the north.

For the purposes of analyzing potential ridership impacts, the study area was divided up into 8 "market zones"; the streetcar would have as its primary mission providing mobility between these areas. The 8 market zones were designed to correspond with those zones being examined in the Economic Impact and Development Assessment task to ensure consistency.

A description of each of the eight market zones appears in the following list:

1. Riverfront to 3rd Street, East to beyond Broadway, West to Elm
2. 3rd Street to 6th Street, East to beyond Broadway, West to Elm
3. 6th to 9th, East to beyond Broadway, West to Elm
4. 9th to Central Parkway, East to Broadway, West to Elm
5. Central Parkway to 13th, East to Broadway, West to Central Parkway
6. 13th to Liberty, East to Broadway, West to beyond Central Avenue
7. Liberty to Findlay, East to Broadway, West to beyond Central Avenue
8. Findlay to McMicken , East to Broadway, West to beyond Central Avenue

In addition, for the purposes of summarizing demographics, a ninth zone was developed to represent the "external" trips to the study area, i.e. trips in the rest of the region (and those that travel from the rest of the region to the study area, or vice versa).

These zones were selected to best reflect the anticipated walk-shed (area of walk accessibility) of the streetcar alignment. It can therefore be inferred that areas beyond these market zones cannot reasonably walk to the streetcar.

Definition of Travel Markets

A number of different potential "markets" were defined, with varying propensities to use the streetcar in lieu of some other mode of transport. Because these constituent groups will have different sensitivities to inputs (such as time, cost, etc.), it is most sensible to forecast these different travel markets discretely and then summarize them to produce one combined ridership forecast. Each of these markets is a little different in terms of the input data and assumptions necessary to support the ridership forecasting analysis.

Because of the limited scope of this feasibility study, it was not possible to collect new quantitative market data (such as on-board surveys and the like); analysis needed to be developed from existing data sources (although some data assembly was required). Because of this limitation, some of the constituent markets were examined in more limited detail. This technical memorandum documents each of the constituent travel markets and describes the methodology used (including assumptions) for each market.

Experience in other cities has shown that the traditional regional travel demand models, such as those used by Metropolitan Planning Organizations (MPOs) for regional planning responsibilities, are not well-suited to the small geographic focus of a downtown-focused streetcar service, and in particular in identifying and quantifying the different travel markets. In cases where a regional model is used, experience (and FTA guidance on the matter) has shown that its analysis must be supplemented by additional "off-model" analysis designed to better capture these other, poorly represented markets. For the purposes of the Cincinnati Streetcar Feasibility Study, the regional MPO models were not used directly to provide ridership estimates; rather, they were used to provide input data (such as travel patterns and zone-to-zone trip tables) to a series of market-based analyses.

The constituent travel markets are discussed in more detail below.

Each travel market is assumed to possess a unique set of sensitivities and propensities to use a streetcar. Therefore, potential streetcar travel markets can be classified into a couple of categories which are variations on the trip purpose and the geographic market.

Geographic market is determined by the origin and destination location (or, more precisely, the production and attraction location) of the trip. Trips traveling entirely within the study area, those which have both origin and destination inside the study area, are very strong candidates for using the streetcar, and are referred to in the analysis as "internal trips". These trips include the typical trips of downtown/OTR residents (such as commuting to work, shopping, etc.), as well as trips made by downtown workers (such as "lunchtime" or "errand" trips). Those trips which originate or finish in the study are but have the opposite end of the trip outside the study area are only candidates to use the streetcar as one component of a multi-leg trip, and are referred to in this analysis as external trips. These trips include "fringe parking" trips, i.e. trips made by regional auto commuters who might find it advantageous to divert their parking location to a spot along the streetcar line and use the streetcar to access their final destination, or "transit circulator" trips, i.e. travelers who enter the study area on another transit service and choose to use the streetcar as a distributor to their final destination.

Trip purpose is similar to that used in most regional travel demand models; in this analysis, home-based work, home-based other, non-home-based, and school/university trips are all valid purposes, and the analysis is performed on a cross-classification of trip purpose and geographic market.

The markets were defined as follows:

Internal (Within Market Area)

- Demand for trips from one market area zone to another (entirely within CBD/OTR areas)

- Residents of market area making home-based trips (HBW and HBO)
- Workers and others in market area doing lunch/errands (NHB)

External (From rest of region, distributes within Market Area)
    Fringe/remote parking

Additionally, a third category of potential streetcar trip markets was defined to include the following special categories:

Stadium and special event trips
- Stadium Events
  - Baseball (Great American Ballpark)
  - Football (Paul Brown Stadium)
  - Non-sports events at stadium
- Arena Events
  - Hockey Games
  - Other Arena events (e.g. concerts)
- Riverfront Events/Festivals
- Events at other venues (e.g. Fountain Square)

The limited scope of the feasibility study allowed for only a limited analysis of the contribution of stadium and special events to potential streetcar ridership. Although there is a significant opportunity for such events to contribute positively to the forecasted ridership on the proposed streetcar, most events do not recur frequently enough to have a significant impact on the annual ridership count. Because the bulk of the annual ridership on the proposed streetcar can be expected to come from the usual daily-occurrence markets (lunchtime errands, resident trips, etc.), and because of the difficulty of obtaining usable event-related data, the forecast methodology employed herein concentrated resources on forecasting the daily trips, while at the same time providing a limited analysis of the most regularly recurring events, namely the average of 81 baseball and 10 football games at the two stadiums. No other special events were included in the forecasts developed for this phase of the study; the contributions to ridership of these events can be examined at a later time in a subsequent phase of the project.

Forecasting Methodology

The forecasts for the internal (lunchtime and resident trips) and external (fringe parking) markets were developed using a simplified version of the standard four-step modeling procedure used to develop travel forecasts worldwide. In the standard four-step process, trip generation predicts how many total trips (of each type) will be generated at each production and attraction location. Trip distribution predicts to which attraction zones each production zone's generated trips will be distributed. Mode choice predicts how many of these trips will be attracted to each mode (e.g. streetcar, bus, walk, etc.), and trip assignment will predict the actual route over the transportation network to be taken by each zone-to-zone trip.

Internal Trip Markets

For this analysis, a set of results of the trip generation and trip distribution steps (commonly known as a "trip table") was obtained from the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) and used as the basis for identifying study area travel patterns in the base year (2005).

Basic socio-economic data (population, households, and employment) were obtained from OKI, stratified by OKI's individual Traffic Analysis Zones (TAZs), together with a key map of those zones. These data were obtained for the "base year" of the OKI model, which was 2005. Additionally, OKI provided estimates from their model of the total zone-to-zone person trips, by trip purpose and time of day, for the same 2005 base year.

Each of these data were aggregated to represent the potential streetcar market area (riverfront, CBD, and OTR) with the 8 "market zones" defined above. Thus a series of 8 x 8 tables of trip origins and destinations (one for each basic trip purpose) represented the total internal trip market within the study area for existing (2005) conditions.

To identify the portion of the internal market forecast to use the streetcar, a mode choice model was developed using a simplified logit formulation, and applied for each market-zone to market-zone combination (8 market zones yield 64 possible zone-to-zone pair combinations). This form of discrete-choice model states that the probability of a trip selecting a particular mode is a direct function of the relative magnitude of the [economic] utility associated with selecting a particular mode (in comparison to all other modes for a particular zone-to-zone trip). The actual functional form of the logit equation uses the natural exponent of each mode's utility in proportion to the total (exponentiated) utility of all modes combined, so that the probability of selecting a mode A (from a set of modes A, B, C, D) is

$$P_A = \frac{e^{U_A}}{e^{U_A} + e^{U_B} + e^{U_C} + e^{U_D}}$$

Where e is the base of the natural logarithm (≈2.718281828).

The utility U of a given mode A for a given trip is itself a function of independent variables such as travel time, cost, and features of the particular origin i and destination j, in the general form

$$U_{Aij} = C_0 + C_1 \times Time_{ij} + C_2 \times Cost_{ij} + \ldots + C_n \times Variable_n$$

Experience has shown that time (and for that matter, cost) can and should be broken into different components which exhibit different relative sensitivities (e.g. in-vehicle time, waiting time, walk access time, etc.). For this analysis, the following equations were used:

$U_{A\,ij}$= C_A *(bias constant varies for each mode)* +
-0.0250 × In-Vehicle Time$_{ij}$ *(in transit vehicle or auto)* +
-0.0500 × (Wait Time$_{ij}$ + Walk/Bike Time$_{ij}$ + Terminal Time$_i$ + Terminal Time$_j$) +
-1.0667 × (Transit Fare$_{ij}$ + Auto Operating Cost$_{ij}$ + Parking Cost$_j$)

Where the values of the bias constants are as follows:

Drive Alone	0
Shared 2 Person	-0.5
Shared 3 Person+	-0.7
Streetcar	-2.6
Bus	-3.35
Walk	0.75
Bike	-3.5

Estimates for travel times and costs for each market zone-to-market zone combination were walk, bike, in-vehicle, and terminal time, as well as operating and parking costs, were developed for each market-zone to market-zone combination. Inputs for each of the modes were developed as follows:

Walk: Walk times were based on an average of 3 miles per hour over the street network; distances were estimated based on known distances between street blocks. Walk mode trips were assumed to bear no cost.

Bike: Bike times were based on an average of 12 miles per hour over the street network; distances were estimated based on known distances between street blocks. Bike mode trips were assumed to bear no cost.

Bus: Bus travel times were estimated using an average speed of 7.85 miles/hour, which was based on an estimate of the travel speeds of SORTA's #21 bus, which travels a current routing through the CBD and OTR quite similar to that of the streetcar. Timepoints from the public schedules were paired with a distance (estimated off of a fine-scale map) to estimate an average travel speed through the study area. Average waiting time was defined to be half the standard headway of 20 minutes. Average walk access/egress time was the sum of the walk times to and from the bus on each end of the trip, approximately 6 minutes on each end. Bus cost was defined as the standard SORTA bus fare of $1.00.

Streetcar: Streetcar travel times were developed based on the operating assumptions built into the streetcar analysis (described in another technical memorandum), which yielded an end-to-end time over the proposed route of approximately 32 minutes, or an average speed of 7.32 miles per hour. Average waiting time was assumed to be 5 minutes, half the assumed streetcar headway of 10 minutes. Walk access/egress time was the sum of the walk access and egress times on both ends of the trip, which based on the alignment's routing through each zone, varied from 3 to 5 minutes per zone. Thus walk times varied from 6 to 10 minutes per trip. Streetcar cost was assumed to be the simple streetcar fare. Three fare scenarios were tested: free fare ($0.00), half-fare ($0.50), and full fare ($1.00).

Auto: Auto travel times were based on the distances over the street network and an average congested auto speed of 20 miles/hour, which seemed appropriate based on a series of "floating car" travel time runs undertaken by consultant staff during the study.

Auto terminal times were based on estimated "additional time" associated with parking in each zone (such as time to circulate through a parking lot or garage), and was applied at each end of the trip. Assumed terminal times varied from 1 minute (in the upper part of Over-the-Rhine) to 5 minutes (in the Riverfront and heart of the CBD areas, where parking lots and garages are more complicated). Cost for auto trips was comprised of operating cost (assumed at 10 cents/mile over the distances on the street network) and parking cost, which was applied at the attraction end of the trip only. Average parking costs per trip was assumed to be half of the average daily parking cost for the attraction zone. Average daily parking costs were estimated based on the extensive data provided by Downtown Cincinnati, Inc. in their *2006 State of Downtown* report), which reports average monthly parking costs by geographic area within the core and supplements these with information from Collier's relating monthly and daily parking rates nationally. For shared-ride auto trips, costs were assumed to be shared equally across all occupants; an average occupancy rate of 2.0 was used for this purpose.

The travel times and costs were applied in the base year (2005) conditions—i.e. "if the streetcar were opened today", and also in two future-year scenarios. The first future-year scenario represented the near-term future (i.e. about 2010, just after the line were to open). Although the primary change in the future year relates to demographics (i.e. the total number of trips in the market), which would not affect the *probabilities* in the mode choice model only the absolute numbers, it was also assumed that the parking costs would grow by approximately 10% over the same period as a result of the increased density of development. The second future scenario represents the longer-term future after the streetcar line has been implemented and development patterns have had a few years to react (i.e. about 2015). In this case, the parking cost was assumed to increase by 20% over base-year conditions.

The mode choice model was applied in each year scenario, for each of the three streetcar fare cases (free fare, 50-cent fare, and $1 fare) to develop a total of 9 forecasts of streetcar ridership for the internal market. Because the input OKI trip tables were stratified by time period (peak and off-peak) and purpose, the models were applied separately by time period, although trip purposes were rolled together by time period.

External Trip Market

The external trip market reflects the potential streetcar trips which are entering the study area from elsewhere in the region to ultimate destinations within the study area and may choose to use the streetcar for the last, distributor portion of their trip. Within this, there are two potential market categories: "fringe" parking diversions, and longer-distance transit commuters (using the streetcar as a distributor). The latter market can be expected to be small, as it would be the universe of people who either transfer today (likely onto the #21 bus) or walk a long distance after exiting their transit vehicle. Since this market was expected to be negligible, and because SORTA had little available data on the existence or prevalence of such transfer activity, it was decided to concentrate the analysis effort on the fringe parking diversion market.

The so-called fringe parking market consists of auto-trip commuters who park downtown or in the immediate vicinity. Some of these parkers might be induced to divert their parking location to another (presumably cheaper) location because of the existence and convenience of using the streetcar to get between the new parking location and ultimate destination. A "fringe parking" (so called because the parking on the "fringe" of the CBD is usually cheaper than the CBD itself) market develops in cities in situations where the CBD parking is scarce and expensive, fringe parking is available and cheap, and where there is a convenient transit "shuttle" service. Between the two Pittsburgh, for example, has an extensive fringe parking market, and a significant portion of their LRT ridership into the downtown core is made up of fringe parking trips from Station Square, Civic Arena, and (when the LRT line is extended) the North Shore. While Cincinnati does not have the tradition of fringe parking to the same degree that Pittsburgh does, there is nevertheless some potential for this market to develop and use the streetcar.

To develop a forecast of the potential streetcar trips arising from this market, the following logical assumptions were applied:

1. People already driving into town will only consider diverting their parking location (and taking another mode as a shuttle) if and only if the savings in out-of-pocket parking costs are positive (i.e the fringe location is less expensive) and more than offset by the additional time and costs associated with the streetcar portion of the trip. If taking the streetcar costs more (in terms of fare and in terms of the dollar value of the time required than it saves in parking cost, then thede is no paricticular reason to divert.

2. The maximum potential market for these trips is the sum of the external-to-study area trips (the trips with productions outside the study area and attractions inside the study area). Trips which have productions inside the study area (i.e study area residents) were not assumed to be likely candidates for this market since it is unlikely people who own vehicles will leave them remote to their homes (necessitating a streetcar trip just to get to one's car). Likewise, fully external trips (those with neither a production nor an attraction inside the study area) were not assumed to be candidates for the streetcar and were not considered as part of this potential market.

3. A value-of-time of $10/hour was assumed for the time spent getting from one's parking location to one's ultimate attractions. This corresponds to approximately 17 cents per minute of time. This number is fairly consistent with models of work trips (the primary market for fringe-parking trips) throughout the U.S.

4. Thus, the only candidates to divert and potentially use streetcar are those people traveling to zones for which a significantly less expensive option (including the savings in parking cost but offset by the "cost" of the time to ride the streetcar at $10/hr. plus the applicable streetcar fare) is available by parking in another market zone.

5. Even with a potential cost savings in excess of the cost of riding the streetcar, only a small portion of eligible patrons will choose to do so. This reflects the condition that many people in fact have reserved parking available (i.e. no daily out-of-pocket cost), need quick access to their car at some other time of the day, wish to avoid weather, or simply choose not to divert for other reasons not captured solely by time and cost.

6. The diversion percentage is reasonably asserted, since no local data as to fringe parking were available, and extensive data collection was beyond the scope of this study. A sliding

linear relationship between the total cost savings and the diversion percent was assumed, with the rationale that the higher the savings, the more enticing the diversion would become, and the more people would be induced to offset their "other immeasurable" reasons against the cost savings. A simple linear relationship was assumed such that a $10 net savings would cause a diversion rate of 2.50% and that a $2 net savings would induce only 0.65% diversion rate. (approximate slope of 0.2537% per dollar).

Stadium and Special Event Markets

As described earlier, the only specific stadium and special events markets which were modeled as part of this study were regular-season (and pre-season) professional baseball and football games at the two stadiums.

The potential for the streetcar to attract ridership from these markets is significant, but since the events happen over a more limited number of dates, their contribution to the overall annual streetcar ridership is likely not as great as the more typical "daily" markets described above. The time-sensitive nature of the events, and potential crowding also contribute to the operational challenges in a streetcar serving these markets. Nevertheless, an attempt was made to develop an initial forecast for these trips.

The Cincinnati Reds have been attracting paid fans to their games since 1869. Many of those fans of yesteryear may have used a streetcar to get to the ballpark, but since they moved into Riverfront Stadium (later Cinergy Field) in 1970, no patrons have been able to do so. The move to Great American Ballpark next door in 2003 now provides a new potential opportunity for stadium users to travel to the game via streetcar as the proposed streetcar line would terminate in a loop within 1 block of the ballpark. According to the Baseball Almanac, the average historical attendance at Reds games has been relatively consistent through the last 20 years or so. So as to minimize any effects of the venue change, only the average historical attendance since the move to Great American Ballpark was used to develop an average attendance estimate of 26,914. There are 81 regular season games per year.

For NFL football games, the Bengals usually sell out, and come close to that in attendance. Therefore, the assumed attendance for Bengals games is assumed to be roughly the stadium capacity of 65,500. There are 8 regular-season games and two pre-season games each year.

To evaluate the potential share of ballpark/stadium patrons which might be induced to use the streetcar to access the ballpark/stadium, a simple mode choice proportion was developed. Although the values are asserted, they are in line with the recent experience of other cities with Streetcar or light rail adjacent to a Major League Baseball (or high-level minor league) ballpark or NFL stadium.

The analysis assumes that there are two ways people can access the stadium—either by taking a mode directly from a location outside the study area, or by taking a mode into the study area (or starting in the study area) and accessing the stadium locally using a different mode from the study area (and, in doing so, crossing Fort Washington Way using that second mode). The modes for the former include “drive and park at stadium”, “group bus (i.e. charter buses or other private group services), and “transit” (some form of transit—either local services or the dedicated game-shuttles which run for Bengals games). The modes for the latter include local transit, walking, and potentially the streetcar.

It should be noted that the analysis was done assuming no special game-related service, no extra streetcar runs to serve the game market. Thus, the ordinary 10 minute headway was assumed (with 15 minute headway in effect at the late conclusion of a night game).

For the baseball games, where the streetcar runs almost to the stadium’s front door, approximately 0.75% of the game patrons are assumed to arrive via the streetcar. However, after the game, the streetcar share can be expected to drop (as seen in many cities), as people will often choose to walk away from the game to avoid waiting in crowds; for this reason, only 0.25% are seen as using the streetcar in this situation.

Again, if special game service was implemented, the percentages would likely be higher. Thus, an average game is expected to draw approximately 269 streetcar riders (both to and from the game), 81 times per year (assuming no special service).

For the football games, the stadium is not as close to the end of the streetcar line, but several blocks away. This makes the streetcar service not quite as convenient for those attending football games and using Streetcar to cross Fort Washington Way. Approximately 0.5% of the game patrons are assumed to make use of the streetcar in this instance, with only 0.1% of them returning from the game in the streetcar. Thus, a typical Bengals game is expected to draw approximately 394 streetcar riders, 10 times per year (assuming no additional service).

As a reasonableness check on the sports venue forecasts, an operational analysis provides a good “upper bound” for potential streetcar ridership. Most fans are assumed to arrive at the ballpark for a baseball game within the period 90 minutes prior to game time and the 30 mintues after the game starts, with the majority of fans arriving in the 30 minutes prior to first pitch. Without “special” service to the ballpark/stadium, it is easy to see that there are only 9 streetcar runs in the 90 minutes prior to game time, followed by 3 more after the game starts. If the absolute capacity of the streetcar is 171, then the most number of fans that could possibly be served by the streetcar per game is 2,052 to the game. Likewise, if all of the fans leave between 30 minutes before the last out and 30 minutes after, the most number of fans that could possibly be served by the streetcar leaving the game is 1,026. Because not all of the fans will show up at the streetcar in equal time increments (the vast majority will arrive 0-30 mintues prior to game time), the “practical capacity” of the streetcar is significantly less, probably on the order of half of these figures. In addition, this presumes that the entire population of streetcar riders on these runs is ballpark-bound, with no room left for other users. This is hardly a valid assumption for a weeknight game starting around 7PM, when many other users could be expected to be riding the streetcar. Thus, without significant additional ‘game service” it is not really reasonable to expect more than 1 percent of the baseball attendees to use the streetcar, and the assumed percentages above appear reasonable.

Ridership Results

The forecasts of potential ridership on the Cincinnati streetcar were done conservatively and nevertheless showed that there is significant potential for daily riderhsip. The range of overall results for the future year ranged from approximately 5,000 ro 8,000 daily trips on the streetcar in 2015, depending on the fare scenario implemented. Results are described in more detail below.

Forecast Years
Three “layered” forecasts were done representing the forecast years for three different underlying demographic and operational conditions. A “today” forecast was done using the most current demographic data available, which was from 2005. This represented the forecast of ridership “if the streetcar were opened today”. A second, incremental forecast using anticipated development/demographic changes to 2010 was developed to represent the anticipated opening-year conditions (i.e. the background demographics on the ”day after the streetcar is expected to open”,). A third, incremental forecast using additional anticipated development and demographic changes (over and above those to 2001) to 2015 was developed; this last forecast represented the conditions “after the streetcar line has been open a few years”.

Fare Assumptions
At this time, no specific fare policy has been decided. Therefore, each of the forecast years was tested with three potential streetcar fare scenarios. The first scenario, “free fare”, reflected the treatment of the streetcar as a “free-fare” zone, as is implemented in some cities. The second scenario, “half fare”, consisted of the streetcar fare of 50 cents, which is half the current SORTA local bus fare.; this reflects the pricing policy in place in a few cities (e.g. Pittsburgh) for their close-in, downtown circulator type services. The third fare policy, “full fare”, treated the streetcar with the full local bus fare of $1.00.

While it is beyond the scope of this study to recommend a particular fare strategy, the range of fare levels provides insight into that eventual decision.

Constituent Markets
Separate forecasts were made for “internal” trips, defined as those entirely within the study area; “external” trips, defined as those which travel to the study area from the rest of the region (chiefly for commuting purposes); and “stadium/event” trips, which captured the impact of the regularly scheduled stadium events on streetcar ridership.

Within the internal trips, the primary constituent markets are home-based trips, comprised of study area residents making their normal work, shopping, and other trips, and non-home-based trips, which are predominantly downtown office workers (and shoppers) engaging in lunchtime and/or errand-type trips.

The primary category for external trips is the “remote parking diversion” market, which is the group of people who drive into the study area and park who can be induced to divert their parking location to another (cheaper) location along the streetcar line and use the streetcar as a shuttle to their ultimate destination. Overwhelmingly these are expected to be work/commute trips. Remote parking for special events (such as stadium events) is similar to this market, but has some unique characteristics and is handled separately.

Preliminary Forecast Results

Preliminary results are shown in detail in Table 1. Preliminary forecasts for the average daily streetcar ridership in the Opening Year (assumed 2010) ranged from 3,700 to 5,600 given the range of fares from $1 to free-fare, respectively. Likewise, the Future Year (2015) forecast ranges from 5,000 to 7,900 for the same inputs. Because of the non-daily nature of the stadium events, they are not included in this figure.

Table 1. Initial Streetcar Forecast Results by Component

	Opening Year (2010) Conditions			Future Year (2015) Conditions		
	Assumed Streetcar Fare			*Assumed Streetcar Fare*		
	$0.00	*$0.50*	*$1.00*	*$0.00*	*$0.50*	*$1.00*
Base (Daily) Streetcar Markets:						
Internal Trip Markets	3,300	2,800	2,300	5,300	4,300	3,450
External Trip Markets	2,250	1,800	1,400	2,600	2,050	1,550
Total Daily Potential Streetcar Trips	**5,550**	**4,600**	**3,700**	**7,900**	**6,350**	**5,000**
Supplemental (Non-Daily) Markets:						
Stadium Event Trips						
Baseball Events (on game days)	550					
Football Events (on game days)	800					

Not surprisingly, the potential ridership increases with the lowering of the fare. The numbers appear to be reasonable, given the inputs and anticipated changes in land use and economic development envisioned for the study area (especially in Over-the-Rhine). Of note is the relative changes between the forecast years between the internal trip markets and the external trip markets. The potential use of remote parking diversion increases slightly between 2010 and 2015, as parking rates continue to increase, but this is dampened somewhat by the re-development of many of the areas on the north fringe of the CBD, and the development of the Banks area; these redevelopments serve to drive up the parking cost (in addition to reducing parking supply overall) of the former “fringe” areas, thus making diversion attractive in fewer areas.

Meanwhile, the internal resident and worker trip markets increase much more significantly, as is reasonable, as these markets are not “dampened” by the changes in parking cost and supply—if anything, they are helped by such a change.

The ridership forecasts for the streetcar also serve to support the notion that while regional commuters and event patron will certainly benefit from the advent of the streetcar, the primary beneficiaries of the streetcar project are study area residents (and those that can be induced to move downtown) and/or workers/shoppers in the core, all of whom benefit from having their set of mobility choices expanded.